

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph spanning from page 23, line 28 to page 24, line 22 (paragraph [0099] as published) as follows:

Embodiments of the invention also provide for methods for filling a stack of arrays, as shown in cross-section in FIG. 11 , by bringing the end of a tubing array 130 into close proximity with a matching set of through-holes in the array stack 122 . The tubing array can be aligned relative to the array stack by an alignment plate 127 128 with through-holes having the same center-to-center spacing as the through-holes into which fluid is placed. Each array 10 in the stack 122 is spaced a small distance s that may be, but is not limited to, an equal distance to the through-hole spacing. Application of pressure to the end of the tubing array, placed inside a pressurized container 132 , forces fluid from each capillary tube 102 into the opposing through-hole. After the through-hole is filled, a liquid drop can begin to grow in the space between the two plates. When the drop reaches a size that it contacts the through-hole in the plate above it, surface tension draws some fluid into the through-hole. Once the fluidic bridge is established, liquid can flow into the through-hole, driven by the constant pressure applied to the opposite end of the tubing array. With no applied pressure, the drop retreats into the through-hole, the fluidic bridge between each plate is broken, and the separation of array plates after filling can be facilitated (i.e., because there is generally no surface tension that needs to be overcome). Successive filled plates 10 are then withdrawn, and the tube array may be retracted in direction 128 . Each vertically registered set of through-holes may thus act as a channel for fluid flow. The hydrophobic coatings on the exterior surface of the arrays prevent liquid from flowing into adjacent holes. This technique can also advantageously be used to create replica plates of a cell library by applying a cell suspension with a pressure uniformly to the array stack.